

**WHAT IS CLAIMED IS:**

- 1           1. A method for processing data packets comprising:  
2           receiving multiple types of data packets,  
3           sending a first predetermined type of data packet to a first data path and a second  
4           predetermined type of data packet to a second data path, and  
5           communicating in advance the types of data packets received to an arbitrator of a  
6           shared resource of the data paths.  
7  
8           2. The method of claim 1, further comprising:  
9           selecting how to handle the data packets based on the communicated types of data  
10          packets.  
11  
12          3. The method of claim 1, further comprising:  
13          selecting data packets for a shared resource of the data paths based on the  
14          communicated types of data packets.  
15  
16          4. The method of claim 1, further comprising:  
17          selecting a shared resource to send a data packet based on the communicated types of  
18          data packets.  
19  
20          5. The method of claim 1 wherein sending further comprises sending a third  
21          predetermined type of data packet to a third data path.  
22  
23          6. The method of claim 1 wherein communicating further comprises communicating  
24          the order that the data packets were received.  
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26          7. The method of claim 1 wherein the first predetermined type of data packets are  
27          non-IP multicast packets and the second predetermined type of data packets are IP multicast  
28          packets.  
29

30           8. A computer program product, disposed on a computer readable medium, for  
31 processing data packets comprising instructions for causing a processor to:  
32           receive multiple types of data packets,  
33           send a first predetermined type of data packet to a first data path and a second  
34 predetermined type of data packet to a second data path, and  
35           communicate in advance the types of data packets received to an arbitrator of a shared  
36 resource of the data paths.

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38           9. The program of claim 8 further comprises instruction for causing a processor to:  
39           select how to handle the data packets based on the communicated types of data  
40 packets.

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42           10. The program of claim 8 further comprises instruction for causing a processor to:  
43           select data packets for a shared resource of the data paths based on the communicated  
44 types of data packets.

45  
46           11. The program of claim 8 further comprises instruction for causing a processor to:  
47           select a shared resource to send a data packet based on the communicated types of  
48 data packets.

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50           12. The program of claim 8 further comprises instruction for causing a processor to:  
51           send a third predetermined type of data packet to a third data path.

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53           13. The program of claim 8 further comprises instruction for causing a processor to:  
54           communicate further comprises communicating the order that the data packets were  
55 received.

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57           14. The program of claim 8 wherein the first predetermined type of data packets are  
58 non-IP multicast packets and the second predetermined type of data packets are IP multicast  
59 packets.

61           15. A system for processing a data packet, the system comprising:  
62                   at least one communication port;  
63                   at least one Ethernet MAC (Medium Access Control) device coupled to at  
64   least one of the at least one communication ports;  
65                   at least one processor having access to at least one Ethernet MAC device; and  
66   instructions for causing at least one processor to:  
67                   receive multiple types of data packets,  
68                   send a first predetermined type of data packet to a first data path and a  
69   second predetermined type of data packet to a second data path, and  
70                   communicate in advance the types of data packets received to an  
71   arbitrator of a shared resource of the data paths.

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73           16. The system of claim 15 further comprises instruction for causing at least one  
74   processor to:  
75           select how to handle the data packets based on the communicated types of data  
76   packets.

77  
78           17. The system of claim 15 further comprises instruction for causing at least one  
79   processor to:  
80           select data packets for a shared resource of the data paths based on the communicated  
81   types of data packets.

82  
83           18. The system of claim 15 further comprises instruction for causing at least one  
84   processor to:  
85           select a shared resource to send a data packet based on the communicated types of  
86   data packets.

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88           19. The system of claim 15 further comprises instruction for causing at least one  
89   processor to:  
90           send a third predetermined type of data packet to a third data path.

92           20. The system of claim 15 further comprises instruction for causing at least one  
93 processor to:

94           communicate further comprises communicating the order that the data packets were  
95 received.

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97           21. The system of claim 15 wherein the first predetermined type of data packets are  
98 non-IP multicast packets and the second predetermined type of data packets are IP multicast  
99 packets.

100  
101           22. A device for processing data packets comprising:  
102 a module to receive multiple types of data packets,  
103 a module to send a first predetermined type of data packet to a first data path and a  
104 second predetermined type of data packet to a second data path, and  
105 a module to communicate in advance the types of data packets received to an  
106 arbitrator of a shared resource of the data paths.

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108           23. The device of claim 22 further comprises:  
109 a module to select how to handle the data packets based on the communicated types  
110 of data packets.

111  
112           24. The device of claim 22 further comprises:  
113 a module to select data packets for a shared resource of the data paths based on the  
114 communicated types of data packets.

115  
116           25. The device of claim 22 further comprises:  
117 a module to select a shared resource to send a data packet based on the communicated  
118 types of data packets.

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120           26. The device of claim 22 further comprises:  
121 a module to send a third predetermined type of data packet to a third data path.

123           27. The device of claim 22 wherein the module to communicate further comprises:  
124 communicating the order that the data packets were received.

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28. The device of claim 22 wherein the first predetermined type of data packets are  
non-IP multicast packets and the second predetermined type of data packets are IP  
multicast packets.